The Historical-Cultural Activity Theory and its contributions to Education, Health and Communication:

interview with Yrjö Engeström

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[4] CRADLE: acronym in English. For further information on CRADLE, access: http://www.helsinki.fi/cradle/

[5] With the aim of making it easier for readers to access the topics dealt with in the interview, explanatory notes and suggestions for additional reading have been inserted at various points.

In the last week of September 2012, Yrjö Engeström, of the Center for Research on Activity, Development and Learning (CRADLE[4]), at the Institute of Behavioral Sciences, University of Helsinki, Finland, received us for discussions that had previously been organized by the small group of Brazilians working at CRADLE. Over the course of ninety minutes of interview and discussion, Professor Engeström talked about the training and activities developed at CRADLE, and its members' understanding of the main concepts of the theoretical focus adopted, which is the "Cultural-Historical Activity Theory". In addition, with contributions from other Brazilian colleagues, theoretical questions of greater density were also explored, such as the concepts of "agency", "runaway objects" and "objects in complex real lives" ("objects in the wild")[5].

Professor Engeström is recognized internationally for applying and developing the cultural-historical activity theory as a theoretical approach in studies on the process of transformation and learning in work-related activities in organizations. He is best known for the theory of expansive learning and the interventionist methodology of developmental work research. One of his most recent studies is *From teams to knots: activity-theoretical studies of collaboration and learning at work*[6]. Currently, he coordinates CRADLE's activities in Helsinki, which was the discussion subject in this interview.

Activity theory was introduced by Lev Vygotsky (1978)[7] in the 1920s and 1930s, and was then developed by his colleague and disciple Alexei Leont'ev[8]. This theory has developed through three generations of research. The first of these, centered on Vygotsky, created the idea of action mediated by cultural artifacts[9]. The insertion of cultural artifacts into human actions was revolutionary, given that the basic analysis unit became one that surpassed the separation between the Cartesian individual and the untouchable social structure. Individual could no longer be understood without their cultural environment, and society could no longer be understood without the agency[10] of the individuals who used and produced these artifacts. The objects became cultural entities, and action oriented towards the objects became the key to understanding the human psyche.

The limitation of the first generation was that the analysis unit remained focused on the individual. This limitation was surmounted by the second generation, centered on Leont'ev, who explained the crucial difference between an individual action and a collective action. The activity concept enabled an enormous advance for the paradigm, in that it changed the focus to the complex interrelationships between individuals and their community.

In the Soviet Union, the social activity systems that were studied concretely through the theories were largely limited to games and learning among children, and the contradictions of activity theory remained an extremely delicate matter. Since the 1970s, the tradition has been taken up again and put into a new context in the West by radical researchers. New domains of activity, including work, were opened up to concrete research. An enormous diversity of applications of activity theory started to appear, as manifested in recent studies[11]. The idea of internal contradictions as a driving force for change and development in activity systems, which was so powerfully conceptualized by Il'enkov[12], started to gain its proper status as a guiding principle for empirical research.

Starting with the fundamental work by Vygotsky, the discourse of the cultural-historical approach mostly involved vertical development towards "higher psychological functions". The research by Luria[13] remained an isolated attempt to incorporate interculturality. Michael Cole, of the University of California, in San Diego, was one of the first to clearly indicate the profound insensitivity of the second generation of activity theory in relation to cultural diversity. When activity theory became internationalized, issues of diversity and dialogue between different traditions or perspectives generated serious challenges. These are the challenges that the third generation of activity theory has to deal with. The third generation of activity theory needs to develop conceptual tools in order to understand the dialogue, multiple perspectives and interactive networks of activity systems.

[6] ENGESTRÖM, Y. **From teams to knots**: activity-theoretical studies of collaboration and learning at work. Cambridge: Harvard University Press, 2008.

[7] VYGOSTKY, L.S. **Mind in society**: the development of higher psychological processes. Cambridge: Harvard University Press, 1978.

[8] LEONT'EV, A.N. **Activity, consciousness, and personality**. Englewood Cliffs, N.J.: Prentice-Hall, 1978. LEONT'EV, A.N. **Problems of the development of the mind**. Moscow: Progress, 1981.

[9] LEMOS, M. **A Atividade de reforço na escola pública como espaço para a construção da cidadania [Reinforcement activity in public schools as a place for constructing active citizenship]**. 2005. Master's Dissertation – Pontifícia Universidade Católica [Pontifical Catholic University], São Paulo. 2005.

[10] This refers to human actions relating to structures that in some way control their lives. Engeström emphasizes actions that are capable of transforming the subject's activity.

[11] ENGESTRÖM, Y. Activity theory and individual and social transformation. In: ENGESTRÖM, Y. et al. (Eds.). **Perspectives on activity theory**. Cambridge: Cambridge University Press, 1999a. cap. 1. p.19-37.

[12] IL'ENKOV, E. **Dialectical logic**: essays on its history and theory. Moscow: Progress Publishers, 1977.

[13] LURIA, A.R. **Cognitive development**: its cultural and social foundations. Cambridge: Harvard University Press, 1976.

The CRADLE (Center for Research on Activity, Development and Learning), its history and current organization

The CRADLE is a research center within the Institute of Behavioral Sciences at the University of Helsinki. As a research center we are very dependent on grants to undertake research projects for which we seek outside funding. We also run a doctoral program, in which you yourself Monica are enrolled and a Masters program. So we are part of a bigger department but relatively independent because we don't only do research but we also have our own training and educational programs.

CRADLE was founded in 1994, so we have been established for almost 20 years. The initial name was The Center for Activity Theory and Developmental Work Research. A few years ago we changed the name, partly because we merged with another research unit here in our department. This research unit, led by Kai Hakkarainen was focused on network learning bututut their theoretical approach was becoming very close to ours so, we joined together and some of our grant researchers have come from that merger. Also, the original name of our center was a little bit difficult to remember and complicated whereas CRADLE is quite easy and the acronym is also quite appropriate because it refers to, the place where a baby can sleep and grow and we feel that our own ideas and our own approach are something which are still quite young, and perhaps even in their infancy and need a lot of nurturing and at the same time we also would like to support young researchers such as you Monica and other students who come here to work and study with us.

This has been quite successful as over thirty PhD students[14] have graduated from our Doctoral Program over the years and this means that we have been successfully educating new researchers who base their work on the Activity Theory.

The Historical-Cultural Activity Theory: CRADLE's theoretical approach

The Historical-Cultural Activity Theory is our foundational framework, and of course this is a broad theoretical approach in which there are different variations. In Brazil for instance I know that the work of Yves Clot[15] and his colleagues from Paris, has been quite influential and he is a good collaboration partner. His approach to Activity Theory is a little different to ours, perhaps a little bit more psychological and we also like to emphasize more a lot of collective organization aspects of the Activity.

The Historical-Cultural Activity Theory as we see it, is not only a psychological theory, it is an interdisciplinary approach that is relevant for all human social sciences and we have here in our center people who come from very diverse scientific backgrounds, ranging from Philosophy and Psychology all the way to Engineering and Economics and Sociology and even Medicine. So, this broad range of scientific disciplines testifies to the usefulness and potential of Activity Theory across disciplines.

In order to pursue this type of interdisciplinary approach we must have a very strong theoretical conceptual framework. Our version of Activity Theory[16] is built very much around the concepts of object oriented activity systems which are collective and which have a long term durability. So these activity systems are often organized, not only as formal organizations but also as informal organizations such as communities and families We are really interested in this longitudinal process of chains and transformations, in the development and learning in these collective activity systems, which can be modeled and analyzed with the help of

[14] The link http://www.helsinki.fi/cradle/doctoral_dissertations.html allows access to theses defended within CRADLE.

[15] Note from the organizers: among the works by Yves Clot already published in Brazil, we can highlight **A função psicológica do trabalho [The psychological function of work]**. 2.ed. Petrópolis: Vozes, 2007; and **Trabalho e poder de agir [Work and the power to act]**. Belo Horizonte: Fabrefactum, 2012.

[16] Note from the organizers: see ENGESTRÖM, Y. Expansive learning at work. Toward an activity theoretical reconceptualization. **J. Educ. Work**, v.14, n.1, p.133-56, 2001. Available from: http://www.tandfonline.com/doi/abs/10.1080/13639080020028747. Accessed on: Jan 28, 2013. See also ENGESTRÖM, Y. **Aprendizagem expansiva**. São Paulo (translation of the author's work, expected to be launched in the second half of 2013).

some foundational models, such as the quite well known triangles activity model[17] which we use.

Some people associate us with only those triangles and I think that's a very narrow view of our work. They are useful models because they are tools. They are conceptual tools, they are to be used and tested and changed and modified and like any tool they are not in any way the sort of canonical, they are tools to develop the theory and make the theory work**s** in practice.

Or rigid, as many people see them?...

Many people see them as rigid perhaps because people feel that diagrams themselves are somehow static. Well, of course they question how you use the diagrams, how you make them alive, how you develop and change and fill them with contents and put them in particular realistic contexts. But they are important for us because, in itself, this complex triangular model is quite demanding as such, because the founders of Activity Theory - Vygotsky, Leontiev and others - never did that kind of modeling. They used some very simple models to indicate the mediational structure of the action. You know, subject, object and mediating artifact or mediating sign. But the collective aspect of activity which comes from the fact that the activities are carried by communities and these communities have a division of labor and also rules. And all these elements have to come together and they interplay constantly, influencing one another. This kind of modeling has been very important for us and we nowadays work a lot with what we call the third generation of Activity Theory, which implies that we are not only looking at a simple activity system, but the interplay between multiple activity systems which somehow are focused on partially the same object.

For instance, let's say in the field of health care there may be different health care providers who treat the same patients and have to somehow find each other, create some forms of collaborative relations between each other; or we study networks of organizations and various such multi-activity combinations. Of course the third generation of Activity Theory, as we call it, is not the only thing we do.

We also go increasingly into the dynamics of the subject; the subjectivity involved in activity issues such as how is agency and motivation formed, how do people become committed and how can they go beyond the existing circumstances and what this means for their processes. At the same time as we have expanded the unit of analysis which include multiple Activity Systems, we have also tried to go deeper into aspects of the subject.

Third generation of Activity Theory.
Relationship with Health, Education and Communication

Well, it's quite interesting that in our center, in the CRADLE, especially health and education have both been very central research areas. In health care organizations we have a long tradition. Actually, my own work in health care organizations started already before CRADLE existed in the 1980's and some of the health care organizations here in Finland, such as The Health Center of Helsinki, are very long-term partners in our research. So we have carried on multiple projects and there is a continuity of collaboration. And some of these experts who work in those organizations had received their PhDs or have been trained by us. So there is this kind of organic interaction.

At this moment, in Helsinki we are studying the home care of old people in the city, which is an increasingly important issue here in Finland because the population is becoming older rapidly and the care of old people who are sick, but not so sick that they are not completely dependent on institutional care is an

important issue. How do we provide forms of care where they can remain relatively independent, relatively autonomous and how do we support that independence are very important questions here.

We also have an ongoing relationship with the major university hospital here in Finland, up north. The health care field is very important for us because at least in Finland we still have mostly public health care that means the public sector is the key organizer of health care and this allows more possibilities for analysis and intervention and change efforts, because if it is only run for profit, we find it more difficult to find space for serious development efforts. Often simply because the activity is so tightly connected to short-term profits.

A similar thing applies to education. We traditionally have had a number of educational institutions that we have studied, which are trying to transform themselves, ranging from kindergartens to universities. And at the moment, as you know Monica, in our doctoral program we have five doctoral students in our 2012 current class who are studying the educational change processes in different countries. If anything I am a little bit envious, because all of you come from different countries but not from Finland and we need a project about the Finnish educational change!

Of course people can say that Finland is rather well-off because our educational system has been quite successful in PISA's international comparisons[18], but still I would say that we are also facing very major transformations in education. They have to do, for instance, with the issue of how schools can open to society and how they can motivate young people, rather than just focus on academic achievement where the motivational aspect is not that strong.

But is important to say that health and education are very strong streams of our empirical research and our interventional work in which we facilitate change efforts in health and educational organizations, typically at the level of local organizations but also increasingly at the level of regional networks such as the Helsinki health care organization. We are looking at how they can work together and perhaps in the future also at the level of nationwide institutions.

One of our senior colleagues, Prof. Reijo Miettinen has just finished a book in which he discusses the question why Finnish schools have been relatively successful and he focuses on the special education field in Finland and tries to understand it as a sort of nation-wide movement to help children and families who have learning difficulties This type of nationwide movement or institutional building is perhaps another level which goes beyond even regional networks. I think that both in health care and in education we need to take into account of the very local but also the regional and nationwide.

Transplanting experiences. The Finnish educational system…

There is something of a rather evil idea to imitate those who are successful. There has been a lot of educational experts and educational decision makers who have come to Finland to see what they could adopt from the Finnish educational system. I don't think that such an effort is very useful if you simply try to transplant some solutions that we have here. The cultural conditions in each country and each culture are so specific that you have to dig, at least from the point of your Activity Theory, into the history and historical contradictions and possibilities in the given culture. Of course at some point it is useful to make comparisons and find best practices elsewhere but that doesn't mean that you can transplant them directly.

For instance, the very fact that we happen to be a Protestant country means that we have been quite mono-cultural. Traditionally Finns have been isolated so we have still have a mono-cultural society which is only now changing to become

[18] PISA (Programme for International Student Assessment) is an international program for comparative assessment. It is applied to seventh-grade students onwards, the age at which the obligatory basic schooling is expected to be concluded in most countries.

multi-cultural The religious background has been for nearly 500 years relatively singular and this Lutheran Protestant religion has actually facilitated literacy because the Protestant church emerged so that everybody should have their personal relationship to Bible, therefore they had to learn to read and write. So this particular historical fact explains a lot about why literacy is at a high level in Finland because the Church, before there was any school system actually required a certain level of literacy from people.

Therefore, these are particular historical conditions which are different in every country, in every culture and I think we need multi-cultural comparisons, and maybe hybridizations, but not just import/export practices and experiences.

The CRADLE experience. Communication studies

I think we can look at the field of communication from two points of view: on one hand we also have a series of intervention studies in organizations which are in the field of mass communication such as newspapers[19], telecommunication companies and broadcast organizations. But on the other hand the whole issue of communication is of course a sort of theoretical question. How we see communication as part of the activity? What is the relationship between communication and activity? And there are theoretical approaches that separate them quite radically. For instance, Jürgen Habermas.

His critical theory of communicative action almost puts practical activity and communication against each other; it says that the domain of communication is the sort of domain where you can be free of power constraints and hierarchies, and really finds exchanges is the base of equality. And then the domain of practice activity is always burdened by power, hierarchy and such constraints. I think that these kinds of dualistic notions are deeply wrong. I think that all practical activities are inherently communicative activities. You can't do medicine without communicating. You cannot even build a house without communicating. And in the same way, you cannot only communicate; much of our communication actually happens by means of practical activities.

We are just now studying a very interesting group of fishing boats builders in the Bay of Bengal, India. When they build these large boats they hardly speak to each other, because they communicate with their bodies, with their practical actions. Everybody is tuned to each other and to the whole by means of seeing the boat and the boat itself is a communicative device, which also of course is a very practical product. It is the object that they are building but it also actually mediates communication between them so that the builders can be in coordination without speaking much or without writing anything. Most of them are actually illiterate. So, that is an example where communication pervades all practical actions and they cannot be separated.

I think it is a hopeless idea to separate the domain of communication from the domain of practical activity. This means that we also must study very hard these forms of course variation when we are using the language in the practical activities, but we can't reduce the activity to only this course.

Do you think we can connect them to the principle of multi-voiced ness?[20]

Any activity is a multi-voiced activity. You cannot reduce an activity to a single perspective, to a single subject, because activities are collective experiences and this means that no individual, no participant, no subject shares exactly the same view, the same perspective, the same interests with the others. And this multi-voicedness is a tremendous source of potential novelty, innovation, richness and

[19] Note from the organizers: Helle, Merja ja Töyry, Maija (2009). Media concepts as aTool for Analysing Changing Media. Teoksessa P. Oittinen ja H.Saarelma: Print Media. Principles, Processes and Quality. Helsinki: Paper Engineers' Association/ Paperi ja Puu Oy, 497-530.

[20] Multivocality refers to the existence of different perspectives among subjects participating in an activity, in relation to the objective.

also resilience in the activity systems, when we look at activity systems which became too monotonous they are also vulnerable. Thus, it's harder for them to find resources when there is trouble.

On the other hand, if we have a very very diverse activity system where the different participants don't understand each other then we have fragmentations. So, one dimension is to look at activity systems and their changes and the other is to look at issues of fragmentation versus total unification. You move in this dimension all the time. Many people who think that the only way to manage organizations is to make them completely under control, in a sense totally predictable. Many people like that think excessive diversity must be eliminated, but of course diversity is something which, when orchestrated, when people find ways to play together is a tremendous source of energy and richness. So, these are certainly at the core of our research.

And for instance in medicine, just looking at any clinic where you have multiple doctors and talking to these doctors, investigating how they see the patient, they usually see multiple different models of the patient; multiple different ways to conceptualize the object. Some take a more classical biomedical view, some take a more social medical view, some take a more psychotherapeutical view, and if this can play together, somehow they are of course stronger.

The interventional research methodology.
The Change Laboratory[21]

[21] Note from the organizers: PEREIRA-QUEROL, M.A. et al. Change laboratory: uma proposta metodológica para pesquisa e desenvolvimento da Aprendizagem Organizacional. **Adm.: Ens. Pesqu.**, v.12, n.4, p.609-40, 2011.

Our version of Activity Theory is inherently interventionist. We see that in the history of Activity Theory, already Vygotsky and his followers, Leontiev, Luria, Davidov and others, they are also doing interventions. Their research was based on the idea that you can actually find potentials and possibilities by creating new challenges and new settings in which people can sort of step to the next level or next zone of proximal[22] development on their activity. And for that you need interventions.

I think that the interventional methodologies that soviet and russian colleagues developed were not fully articulated. They never formulated these methodologies very fully. So, it is the task of our generations to make these methodologies more explicit and also make them linked to the today's needs. And there are the multiple interventional methodologies that Activity Theory researchers are using. I mentioned Yves Clot and his research group. They use what they call Clinical Activity, and we have developed particularly this specific change laboratory method.

[22] Note from the organizers: the works cited in note 9 discuss this concept.

The idea is that when a collective, let's say an organization or unit of an organization, or perhaps a community are facing an important transformation that is not easy to master, in which they need somehow to create their own vision and their own agency to direct their own development. Then, bringing in those people or, at least, a representative group of these people into a series of sessions, often we have about ten sessions, roughly once a week or every two weeks, where we sit down and start by presenting what you call mirror material, the material which is video-taped or also other kinds of material; statistics, interviews, etc, which demonstrate things that creates trouble and problems, break-down disturbances or sometimes even crisis in the organization, in the activity.

The Change Laboratory and participation

Usually it's our researchers that collect the data. When we have a long-term partnership we often can also rely on the local participants, the practitioners

themselves to collect this data. But if we enter a new **a**ctivity **s**ystem we often have to do it ourselves and that may take several months to collect this kind of background data and to also dig into the history of this particular activity. Then, in these Change Laboratory sessions we present selected examples of that kind of data, that kind of evidence and ask them to say what they see. What is happening? Why is this happening? This often creates a very strong situation, what we call first critical conflict, and perhaps a double-bind situation where people feel that something must be done to change this but don't know what. And from this kind of strong motivational commitment, which is also quite conflictual, because people also would like to deny it - you need to work on enough so the involvement becomes a serious engagement and commitment to change.

And then from that we move to the history to ask: Ok, where did this trouble start? When did this happen? What are the roots? And already there we start using these models, for instance the triangle models of activity, but also other tools such as historical timelines to identify cycles of change in the history of the given activity. And so it is not anymore a sort of emotional engagement with things that go wrong but then it becomes also intellectual distance analysis and you have to move between these personal emotional engagements and a little more detached analytical kind of conceptual work. This movement is very crucial, so through the historical analysis which often we'd like to build so people bring their own personal histories into it too.

You know, when the guy comes to this activity, when the guy starts this work, how was it different then? How is it now? And through this history they build a kind of hypothesis of what the structural systemic contradictions behind these problems are. That leads them to the efforts to model the future and the future modeling may also use comparisons with other similar activities elsewhere to get impasses and ideas or just to play with the future possibilities, to sort of construct visions of your own zone of proximal development.

Then we typically decide, together with the practitioners, that certain aspects of this future model can be implemented now and in the next few months and see what they can do with them. In other words, they select kind of sub-projects which they then test in practice, then we follow-up on that gradually because you can never just implement a whole new model like this over night and change everything immediately You have to sort of build this change into the existing activity and gradually transform it and this is of course the implementation phase and can be very demanding.

So we try to follow that up and support that with the follow-up meetings of the Change Laboratory. This whole process is a kind of condensed and pressurized process of expansive learning, and the sections may be run in two or three months. But then there is the follow-up period, which we would like to make at least one year so we can see what actually emerges in practice.

All of this must be documented very carefully so that it can be used on the one hand for rigorous research analysis and on the other hand so we can take some examples from the Change Laboratory previous session to the next one so they always have to reflect back on what they the week before. How did we perhaps end up in conflict or at a dead end? How can we move beyond that? So there is this constant back and forth reflection, which requires we video-tape every session and between the sessions we look at some key fragments or segments of the video which we show in the next session to provide this sort of continuous reflection on their own process.

And who participates in the sessions?

Well, this depends on the activity. For instance, if you have a very large organization, like a big hospital, you typically have to decide which part of the hospital will serve as the pilot unit. Even in the pilot unit they may have so many employees that it's important that they select, or you select together with them, a representative group because we have had some change laboratories where we had sixty or seventy people but that's very difficult. The quality of the discussion is much more difficult to monitor and to make sense of so we like to have between ten and thirty people.

So, for instance, right now your colleague from the doctoral program Yury Lapshin in Moscow is starting a change laboratory in a big school and they are selecting about 25 teachers and administrators there to keep it manageable. They do however have to be carefully selected so they somehow represent the diversity in the school or in the given activity system and they also have the task of

somehow interacting with their colleagues so, that's a tricky issue. It's much easier if you have smaller groups.

In the very first Change Laboratory that was conducted in 1995 in the Finnish post offices the post offices were so small that all the mail carriers from the given post office could participate, so it was 100% participation. Of course most organizations are not like that. Most organizations are relatively large and it's difficult to find a representative group. Sometimes you can pick a team. For instance we have Marika Schaupp, who is working on a change laboratory in a large Finnish company and she has identified a team which can serve as the pilot unit, and all the members of the team, including the supervisor, are then participants.

So, if you can find a natural unit which is an appropriate size, it's of course easier but there is no simple answer to that. There are, in the literature we know about various kinds of large scale interventions where hundreds of people are involved. We have not gone in that direction because often they tend to become very superficial.

Superficial?

Well, how do you make sure that 500 people are involved in real analysis? Usually they are there as an audience and not really as subjects.

And maybe we cannot be sure also about the real transformation?
Exactly. It becomes very much management led. So typically when you make these large scale interventions these hundreds of people are there in order to listen to the management, to the consultant, to the researchers preach to them about how wonderful things should be and it easily becomes a very traditional kind of dissemination rather than a real intervention that is based on developing the agency of the participants.

Participation of the different hierarchical levels in a same session
Well, that's a very good question also. We have tried various ways. In some cases, for instance in the Oulu University Hospital, in which we have worked, we have been fortunate that the top management section of the hospital wanted to participate themselves and were very actively involved in the chance laboratory process. In this case the different levels of the hierarchy were quite comfortable debating with one another and it was not the case that the top manager would make everyone else quiet. This is not necessarily the usual case.

In a big telecommunication company where we had a Change Laboratory it was organized so that the frontline teams, which were the basic unities of the Change Laboratory, would invite in one session the manager, to discuss their ideas with them and to exchange and debate, but only in one session. The idea was that the hierarchy is involved and the hierarchy is informed, but hierarchy should give the teams enough space so that they can develop their own initiatives. Then, the next step is: can those initiatives be accepted by the management? And of course that requires negotiation and continuous dialogue but there is no simple solution to this.

The concept of agency. Agency versus subject.
Subjetivity and agency[23]
23 Question suggested by Elaine Mateus.
It is a very important issue. What is the relationship between just being a subject and being an agent. The issue indicates that some Activity Theory studies

treat human agency as 'everything'. And then to look at social realities is not but human actions.

Banalization of the concept of agency and its relevance inside the activity system

In fact, in the broader literature, agency, outside Activity Theory, is very very common. Any action that human beings take is considered as active action. Even if you just blink your eyes, in a way you are an agent. And this leads to a banalization and trivialization of the concept. One important root of the concept of agency comes from Giddens[24] and his works on structure versus agency. The idea is that there are structures that human beings have created, various kinds of organizations, institutions, rules, etc, which kind of constrain us and then human beings, in order to find their own way and to influence their circumstances, need to have agency, and this is the dialectics between structure and agency. This is already more interesting because it means that not everything is agency.

The agency has to be seen in relation to the structures, that you somehow manage your life by dealing actively with those structures. In our work we actually want to go a little bit further and we like to talk about transformative agency: agency in what human beings are gaining capability in their collective activities. So we nowadays often add the word *transformative* to indicate that we don't mean just any banal sense, anything that human beings do, but particularly the potential of human beings to become history makers or the transformers of their own activities.

Of course, then this begs the question: so what is the subjectivity? Is that then everything that a human being does? I don't think so either. I think the concept of subject, subjectivity, I would like to investigate, let's say…the way a human being builds a personal relation to the activity, and works out his or her conflicts and tensions in relation to the collective activity. So I see that as an issue of personal sense making, using Leontiev's terms, forming personal sense and relating that to the social meanings of the activity. So, subjectivity is for me an issue of personal sense making and identity, identifying yourself in relation to the collective activity. And issues as agency for me are primarily issues of transformation.

The transformative agency should be understood as specific actions, not every action, but very specific actions which have transformative potential. For instance, resisting and critiquing or identifying possibilities or modeling and visualizing the future, or committing to actions to change the situation or actually them performing those actions.

We have identified until now six types of transformative agency[25] in actions that are taken discursively by people who participate in Change Laboratories and several studies are underway to investigate in detail the discourse in Change Laboratories through the sessions. And how these different types of expressions of agency appear in the different sessions, how they may increase or decrease, who takes those actions, how this is distributed among the participants, to what extent they become collective actions and to what extent they remain just individual actions and so on.

So I think this transformative agency can and should be analyzed quite rigorously. I don't like the idea of just broadly talking about agency in general. It's the same about subjectivity. I think, for instance, the work of Analisa Sannino[26] on experiencing how people deal with critical conflicts is at the core issue of subjectivity. Also I would like to see much more work on making personal sense and how to access that. Probably in the near future we will have more studies in

[24] **See: GIDDENS, A.** The constitution of society. **Outline of the Theory of Structuration. Los Angeles: University of California Press, 1986.**

[25] Note from the organizers: HAAPASAARI, A.; ENGESTRÖM, Y. **The emergence of learners' agency in a Change Laboratory intervention.** (Manuscript in preparation).

[26] See: SANNINO, A. Teachers' talk of experiencing: conflict, resistance and agency. **Teach. Teach. Educ.**, n.26, p.838-44, 2010.

that direction. There is a connection, of course, between personal sense making and agency, but they shouldn't be considered the one same thing. So I'd like to have some rather sharp analytical clarity around these concepts. At the moment, unfortunately, there is a tendency of making everything agency.

Concepts formation, "runaway objects" and "objects in the wild"[27]

These concepts need to be explained. Perhaps it's best to start with these because they remain rather mysterious otherwise. By runaway object we mean the fact that the concept of object is the foundation of Activity Theory. As Leontiev says, there is no activity without an object, and the object means it is a sort of horizon of possibilities the activity is oriented at, but it's not the same as specific goal. It is broader and more difficult to define.

Let's say for instance the health system: the health system activity is usually driven by the objects of illness. You know, health professionals try to fight illness. They try to heal and prevent illness. But illness is not a very specific goal or anything like that. It is a very broad object which can never be fully eradicated. It cannot be fully controlled. Therefore, it is in a way, especially with some new illness such as various kinds of pandemics which are very difficult to control. They are, in fact, runaway objects. They seem to pop up unexpectedly and spread globally very quickly so these we call runaway objects is a new type of object which potentially have this ability to escalate and spread very rapidly out of control.

They can be good as, let's say, some innovation, like the Linux open source operating system, which was done by a few hackers but suddenly became a global innovation. On the other hand, they are often also very nasty and dangerous, such as a pandemic or even more, there are severe things like global warming or climate change or financial crisis like we are having in Europe at the moment. These can all be called runaway objects. They start from something small and they certainly become out of control. Fernanda, I think, is asking about these runaway objects and the relation to concepts. Now here she also refers to the question of in the wild.

At the moment I am working on a project which is called Concept Formation in The Wild and it refers to the fact that concept formation and conceptual change have traditionally been studied mainly in really controlled environments such as classrooms and laboratories. Researchers have been interested in how natural sciences or mathematical concepts are acquired by a child in a classroom and usually those studies take very well defined concepts which are well know and understood and then see how children can make sense and appropriate those concepts and what types of change it means in the previous thinking and so on.

Now, I feel that at the moment in the world the most interesting process of concept formation happens outside laboratories and classrooms, when people have to face these new difficult phenomena. That is a tremendous task of concept formation. What do you call it? How do you understand it? How do you create a concept that would make sense and give some coherence to this phenomenon? These are processes that are very distributed; people around the world in different places are struggling with the same issues.

Let's take the example of how the concept of HIV AIDS was formed. It took many years of debates, struggles between different researchers, many co-practitioners, patient organizations, governments, before it was gradually stabilized, so that you can now agree more or less what are the essential characteristics of HIV AIDS. But still, you know, a few years ago there were even heads of state that would deny and say "oh, there is not a sexual transmitted disease or something like that"; which looked like almost crazy ideas and there were always various kinds of

27 Topic proposed by Fernanda Liberalli, of PUC-SP. "[...] Concepts are also runaway objects when we get them as ours. They escape us and expand into new directions. Considering the creative chain concept, without creating unifying treats of the concept, treats that preserve marks of previous meaning that also open to new meanings. This attempt can be seen as a contradiction within relation to the nature way of concept formed in the wild, traveling aimlessly to unexpected places. Could this be an opportunity of understand that evolution controls the object? Would there be a contradiction between the concept of pre-movement and deliberate pre-defined directions?"

conspiracy theory that this was this and that way it started, and so on. Concept formation at that level is something in which regular people in various professions are engaged and we are interested in finding ways to understand and facilitate this kind of concept formation in the wild.

So that people would not be totally at the mercy of, let's say, what they are reading in the newspapers or see on television, but there would be a bit more grounded local capabilities in collectives of people to create concepts to guide their own activities. These don't have to be global concepts, they can be intermediate level concepts, like, to have a concept for understanding what we are doing in our organization. And this means that concept formation challenges, it faces a new challenge, the studies of concept formation. We are at the very beginning of this kind of research

Fernanda's question is a good question, but it's very complicated. It's very hard to answer a question about to which extent these concepts can develop; are they runaway objects or are they freely taking shape? I don't think that concept formation ever happens completely without constraints. You see, if we look at examples of concept formation from history, there is, because the object is of pressing importance, for instance with HIV AIDS; it was simply necessary to find an explanation and a category for this so that people could start having some structure in their treatment and could start building legislation on the subject.

So, when the object is of pressing importance it is never totally free. The object requires people somehow to find coherence. I believe that even when we see now these big debates around climate changes and global warming, they will have to converge, not to totally unanimity, the multivoicedness will remain, but there must be some form of stabilization. The concept is not a concept if it is not stabilized.

The challenge of dealing with the object under construction
It seems that everything is in a flux, and nothing is certain. Yes! That's absolutely true. There are multiple strategies that need to be investigated. Of course one of them is finding partial stabilizations, let's say elements of the concept which can be reasonably well agreed upon and used as kind of spring boards for further progress. I think if you look at the history, for instance cases like HIV AIDS, you see these partial stabilizations happening. These are not immediately completely consensual, but partial steps which can be agreed upon and then kind of channeled to join efforts into the same direction.

The other thing is, as far as I can see, is that where we are lucky in society is to have genuine forums where people can actually debate and clarify their concepts. At the moment, you know, we have a problem with the media, and the social media could become much more facilitating in this regard. Think about people who are struggling with any such complex concepts like, for instance, how to understand the financial crisis. You cannot easily find a place on the web, for instance, where you would see the different attempts to define it and to bring them all together, to find some source of overview.

So what we increasingly need in my opinion and also in the level of organizations is various kinds of shared interfaces where the concept formation can be observed and people can have an overview of how people are now starting to understand something. At the moment, it seems to me that these kind of tools are kind of lacking. Largely because the social media has allowed us to have millions of discussions that are not connected, and these large scale sense-making efforts would require, I think, a next step in the development of social media, perhaps in the web altogether, which allow people to follow different lines of argumentation and how they might or might not come together. These are difficult topics. I would say that **this kind of research** is at the beginning, it's a little too early to speculate so much.

Balance. Main contributions, gaps, challenges and perspectives
We talked about agency, subjectivity, these are an area definitely. Another area is increasing the issue of how to study activities which have these very wide spread characters that are not only local but also increasingly global, or at least interconnected. This interconnectedness and the potential effect of the World Wide Web and other media on activities and communities, it's another dimension of challenges and tasks but perhaps the most crucial issue at the level of individual researchers and

research groups is how to connect the local concrete research projects to essential societal tensions and possibilities of societal development. For Activity Theoretical research to be relevant it must aim at actually influencing people's lives and this increasingly means that we need to somehow get engaged and get involved in important society level transformations and see their impact and see how they are played out in local settings.

Partly that is why I think it is increasingly important to collaborate with researchers in places like Brazil, but not only there, but in many other countries where perhaps the society is, at the moment, more optimistically and openly facing new challenges than in some parts of Europe and in the United States. In Europe and in the United States at the moment the shock of becoming less and less the center of world power is unfortunately making society often rather defensive so they feel at a loss, they don't know which way to go and that means that increasingly the future of the world is shaped not in the West, but in the rest! This means that for Activity Theory the research should be there, where the future is actually being shaped not where people are defensive and completely at a loss. I'm not saying that this is so simple. Of course, most of our is done here in Finland, but increasingly we must make sure that we are not isolated and that's one of the challenges.

Another is of course the very issue of how we develop our interventionist methodology when we face new cultural conditions? When we face situations in which people are, for instance, engaged also in political struggles or community based struggles rather than only workplaces. Our main experience comes from workplaces but this has to be broadened. I think that in the next few years we will have an increasing number of studies, intervention studies, also using the Change Laboratory from different countries and we need to compare and bring these together into international publications to look at the experiences and insights gained when implementing something. For instance, we have a colleague in South Africa using Change Laboratory to work with some local villages on the prevention of HIV AIDS and how to work with the villagers among whom this disease is widespread and to help the build new ways of prevention. That's a very different challenge from the work in a Finnish hospital or a Finnish school. So, these comparisons and lessons gained across these cultural boundaries will be very very central.